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SPECIAL DATA COLLECTION SYSTEM EVENT
REPORT: MEXICO-GUATEMALA BORDER, 22
AUGUST 1975

K.J. Hill, et al

Teledyne Geotech
Alexandria, Virginia

December 1975

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SDCS-ER-75-43

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SPECIAL DATA COLLECTION SYSTEM EVENT REPORT
Mexico-Guatemala Border, 22 August 1975

K.J. Hill, M.S. Dawkins, and R.R. Baumstark
Alexandria Laboratories

Teledyne Geotech, 314 Montgomery Street, Alexandria, Virginia 22314

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SDCS Event Report No. 43

Mexico-Guatemala Border, 22 August 1975

This event report contains seismic data from the Special Data Collection System (SDCS), and other sources for the above event. Published epicenter information from seismic observations is:

	"P" Arrival	Origin Time	Latitude	Longitude	m_b	M_s
NORSAR	23:20:46.6	23:08:46	16 N	093 W	5.4	N/A
Hagfors	23:20:53.3	23:07:16	2 N	097 W	5.7	5.4

Using SDCS stations, LASA and NORSAR, the epicenter location and magnitudes become

23:08:14.5 14.7N 093.5W 5.2 5.0

All SDCS stations were operational during this period.

Short-period signals associated with this event were recorded at WH2YK, CPSO, RK-ON, FN-WV, LASA and NORSAR. The horizontal SP channels at all SDCS stations were rotated. High-level background noise prevented determination of signal arrival at HN-ME. At WH2YK all SP channels displayed high-level background noise.

Long-period signals were recorded at WH2YK, CPSO, HN-ME, FN-WV, ALPA and LASA. Horizontal channels at WH2YK, CPSO, HN-ME and FN-WV were rotated. At RK-ON both the vertical and transverse LP channels were inoperative and the radial LP channel operated at an unknown gain. NORSAR long-period array data were not recoverable. Validity of the ALPA long-period vertical beam is uncertain.

Scaling factors on plots are millimicrons at 1 Hz (not corrected for instrument response) with the exception of LASA and NORSAR short-period plots. LASA SP scaling factors are millimicrons per inch. Scaling factors are not reported for NORSAR short-period.

STATION DESCRIPTION

SITE CODE	LOCATION	SITE COORDINATES		ELEVATION METERS	INSTRUMENTATION	
		DEG	MN SECS		SHORT - PERIOD	LONG - PERIOD
ALPA	Alaska	65 14	00.0 N 147 44 30.0 W	626	None	31300
CPSO	McMinnville, Tennessee	35 35	41.4 N 085 34 13.5 W	574	6480 V 7515 H	SL210 V SL220 H
FN-WV	Franklin, West Virginia	38 32	58.0 N 079 30 47.0 W	910	KS36000	KS36000
LASA	Billings, Montana	46 41	19.0 N 106 13 20.0 W	744	HS10	7505A V 8700C H
HN-ME	Houlton, Maine	46 09	43.0 N 067 59 09.0 W	213	18300	SL210 V SL220 H
NORSAR	Kjeller, Norway	60 49	25.4 N 010 49 56.5 E	379	HS10	7505A V 8700C H
RK-ON	Red Lake, Ontario	50 50	20.0 N 093 40 20.0 W	366	18300	SL210 V SL220 H
WH2YK	White Horse, Yukon	60 41	41.0 N 134 58 02.0 W	853	18300	SL210 V SL220 H

Note: The orientation of the radial instruments at FN-WV is assumed to be 316° + 5° based on empirical data (event recordings). Rotation, where performed, is referenced to this azimuth and may be questionable.

HYPOCENTER DETERMINATION

INPUT FOR EVENT 22 AUG 75
 23:08:10.0 13.999N 93.000W 0KM.

STA.	ARRIVAL	RESIDUALS		DIST.	AZ.
		CAIC	PEST		
CPO	23 13 10.6	0.5	1.1	22.0	17.4
FN-WV	23 13 55.0	-0.6	-0.4	26.8	24.8
IAC	23 14 56.4	-0.2	0.2	33.6	244.1
RK-CN	23 15 15.4	0.1	-1.6	36.1	359.8
WH2YK	23 17 46.1	0.1	0.6	54.8	336.5
NAC	23 20 46.6	0.2	0.1	84.1	28.5

67 HERRIN TRAVEL TIME TABLES

CRIGIN	LAT.	LCNG.	DEPTH (KM)	SDV	IT	STA
23:09:16.6	17.697N	93.098W	440. CAIC	0.4	7	6
23:08:14.5	14.692N	93.461W	0. REST	0.9	3	6

CAIC
 3 . 1
 0 . 0
 0 0.2 0

 0 0.0 0
 0 . 0
 0 . 0

REST
 3 . 2
 0 . 0
 0 0.1 0

 0 0.0 0
 0 . 0
 0 . 0

CHI2 COVERAGE ELLIPSE; 95 PER CENT CONF..LEVEL, SDV= 1.25
 MAJOR 80.4KM. MINOR 52.8KM. AZ= 174 AREA= 13354 SQ.KM. REST

DATA SUMMARY

INPUT POP EVENT 22 AUG 75
23:08:10.0 13.999N 93.000W 0KM.

STA.	PHASE	ARRIVAL		INST	PER	A/T	MAGNITUDE		DIR	DIST
		TIME					MB	MS		
CPC	EP	23	13 10.6	SPZ	1.0	589.	5.67			22.0
CPC	LR	23	23 22.0	LPZ	18.0	589.		5.23		22.0
FN-WV	EP	23	13 55.0	SPZ	1.0	27.	4.61			26.8
FN-WV	LR	23	25 13.0	LPZ	22.0	374.		5.12		26.8
IAC	EP	23	14 56.4	SAB	1.2	268.	5.83			33.6
IAC	LR	23	30 05.0	LPZ	20.0	201.		4.95		33.6
RK-ON	EP	23	15 15.4	SPZ	1.0	52.	5.01			36.1
HN-ME	LR	23	31 46.0	LPZ	23.0	117.		4.77		38.0
WH2YK	EP	23	17 46.1	SPZ	0.7	9.	4.45			54.8
WH2YK	LQ	23	40 00.0	LPT	18.0	538.				
WH2YK	LR	23	44 52.0	LPZ	17.0	347.		5.40		54.8
ALPA	LR	23	49 33.0	LPZ	19.0	60.		4.69		62.2
NAC	EP	23	20 46.6	AB	1.0	108.	5.73			84.1

ORIGIN	LAT.	LONG.	DEPTH (KM)	MAG	SDV	STA	LPMAG	LPSDV	LPSTA
23:09:16.6	17.697N	93.098W	440. CALC	4.64	0.62	5	4.99	0.3	6
23:08:14.5	14.692N	93.461W	0. REST	5.22	0.61	6	5.03	0.3	6

CPC NOT USED IN CALC RUN SP AVG. MAG.

CPSO 22 AUG 75

23:13:10.6
↑

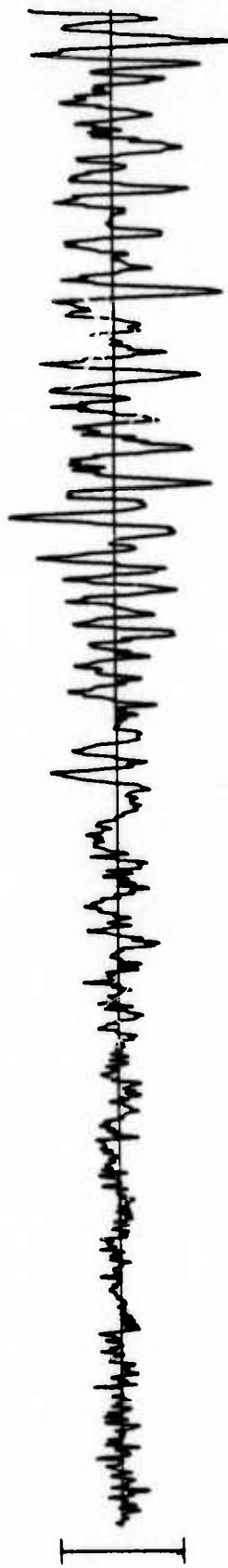
SPZ
140 3 Mμ



SPR
61.97 Mμ



SPT
28.27 Mμ



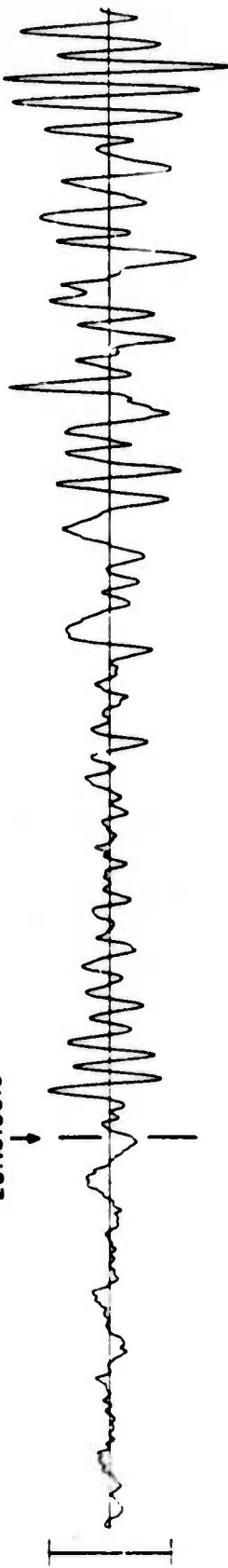
TIME



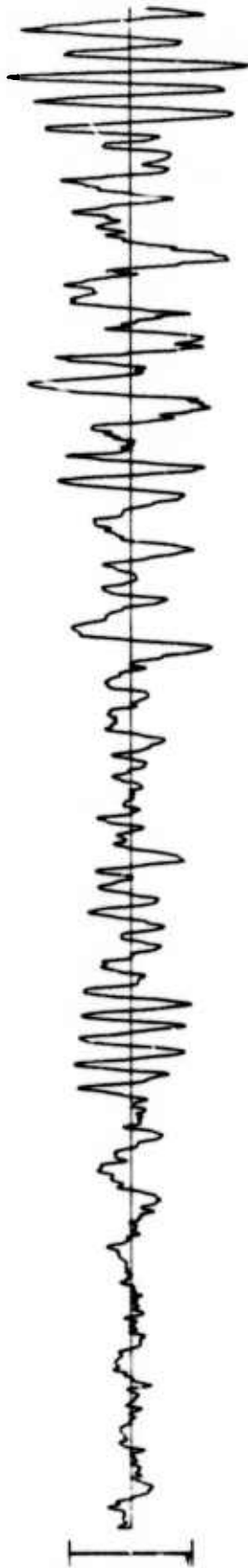
6<

FN-WV 22 AUG 75

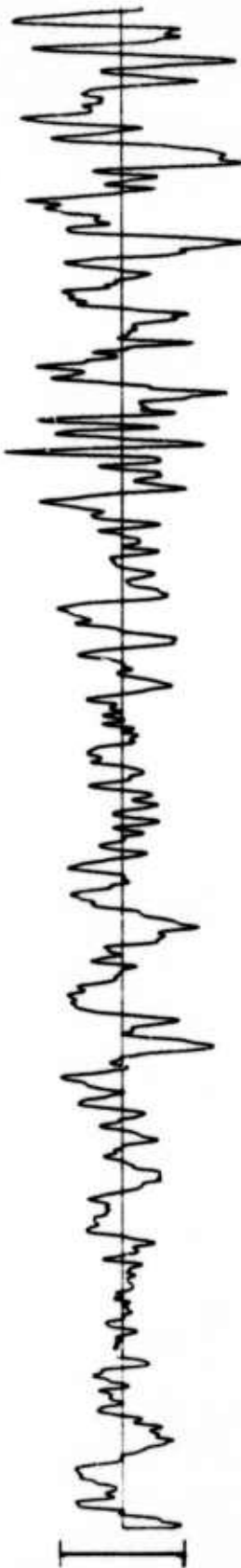
23:13:55.0



SPR
22.09 Mμ



SPT
11.83 Mμ



TIME

10 SEC

23:14:00

7<

RK-ON 22 AUG 75

23:15:15.4



SPZ

29.41 Mμ



SPR

17.11 Mμ



SPT

12.64 Mμ



10 SEC

8<

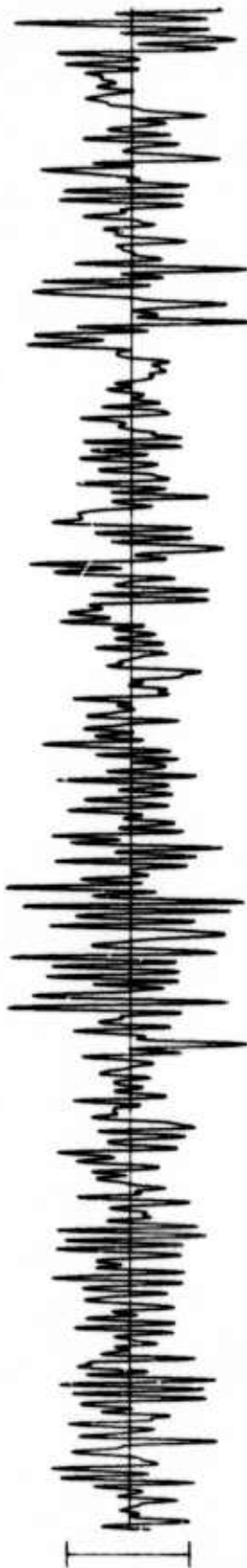
WH2YK 22 AUG 75

23:17:45.1
↓

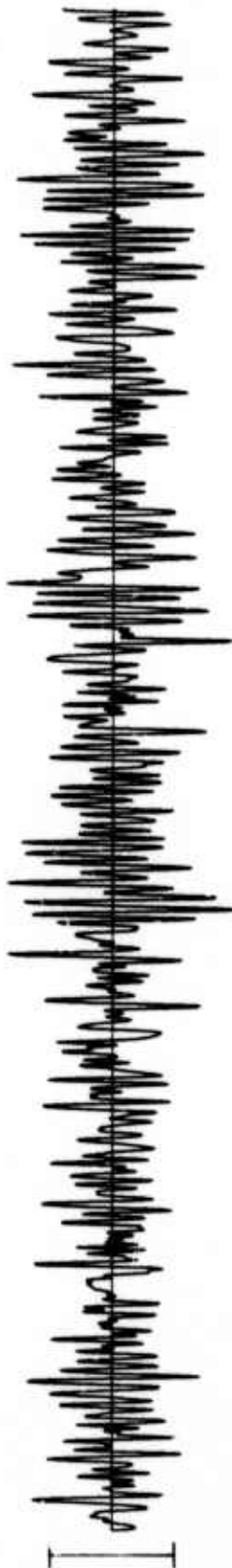
SPZ
13.81 MP



SPR
10.64 MP



SPT
14.23 MP



TIME



10 SEC

23:18:00
↑

9<

HN-ME 22 AUG 75

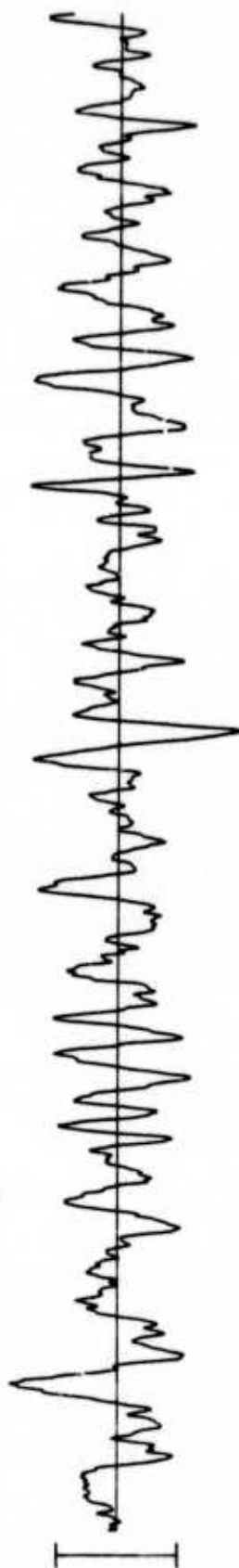
SPZ
14.54 MP



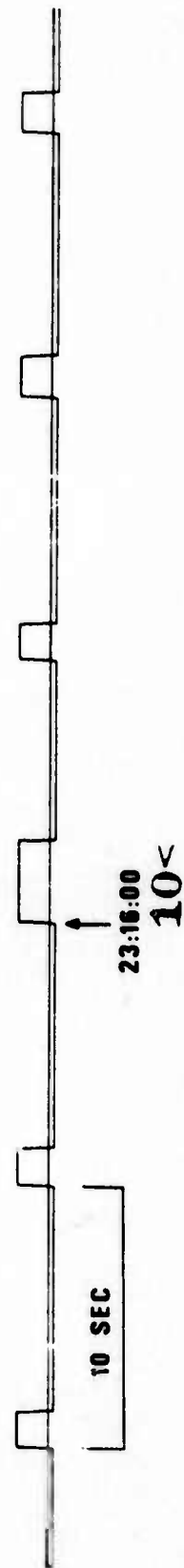
SPR
13.58 MP



SPT
15.01 MP



TIME



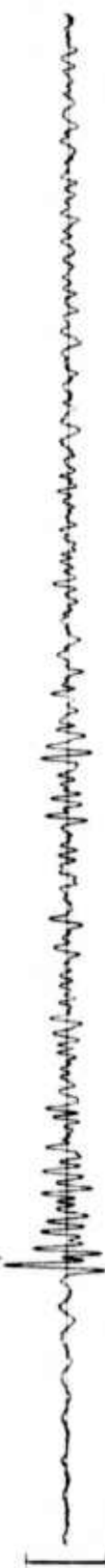
LASA INFINITE VELOCITY SUBARRAY SUMS 22 AUG 75

23:14:56.4

A0 SUM
149 M μ



D1 SUM
228 M μ



D2 SUM
152 M μ



D3 SUM
500 M μ



D4 SUM
387 M μ



23:14:25.3

20 SEC

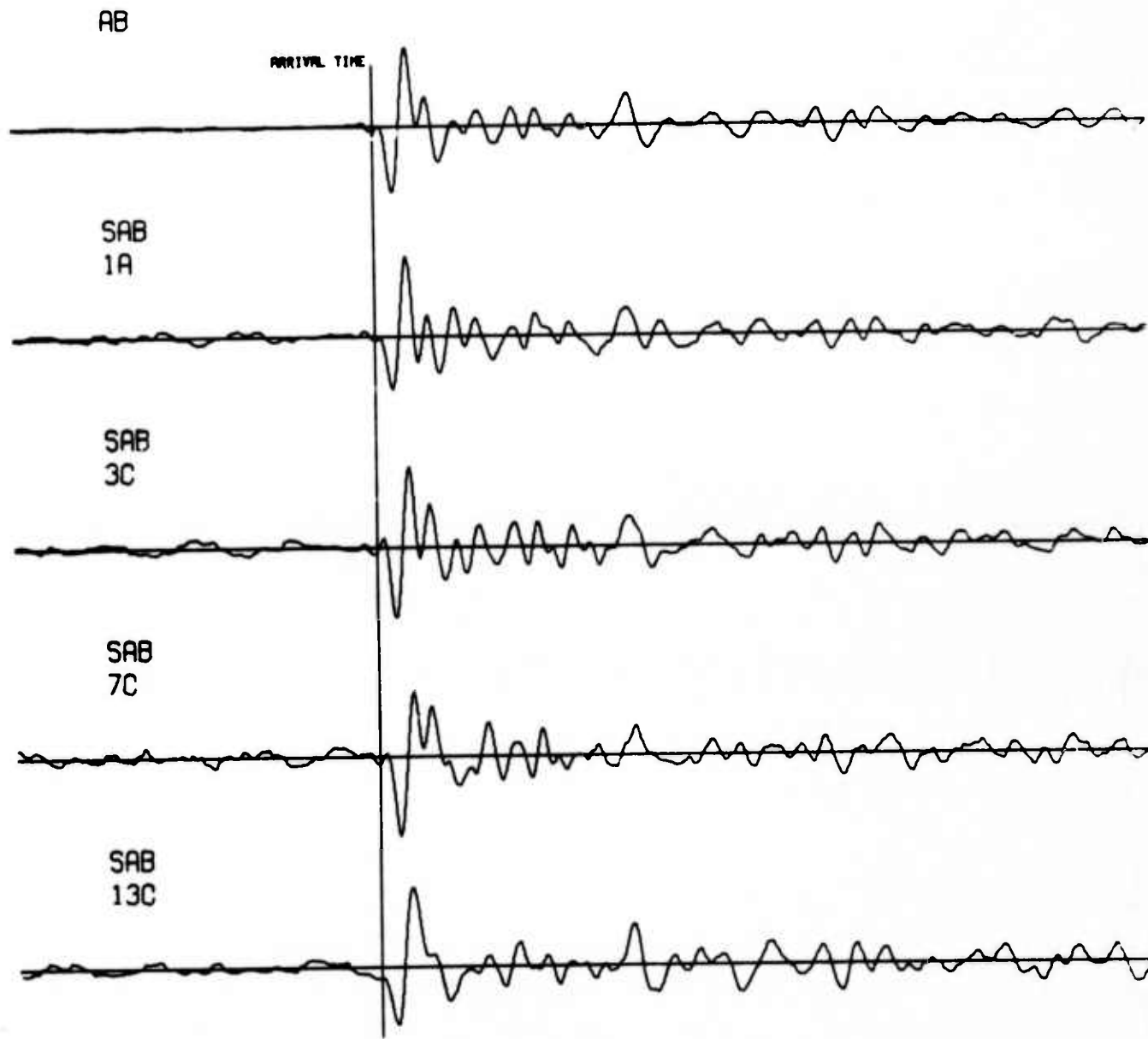
NORSAR EVENT FILE

22 AUG 75

EPX NO. 41080 ARR. 23.20.47.3 11.6N 95.2W 5.5MB 33KM

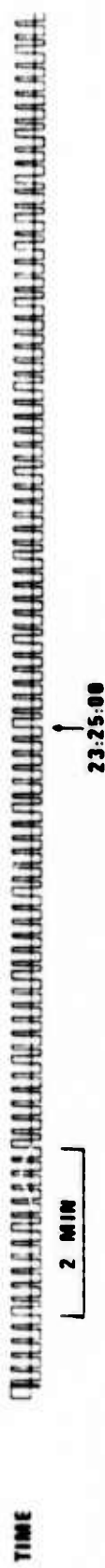
DIST = 87.6 AZI = 289.5 AMP = 37.2 PER = 1.0

|————| = 5 SECONDS



CPSO 22 AUG 75

23:23:22



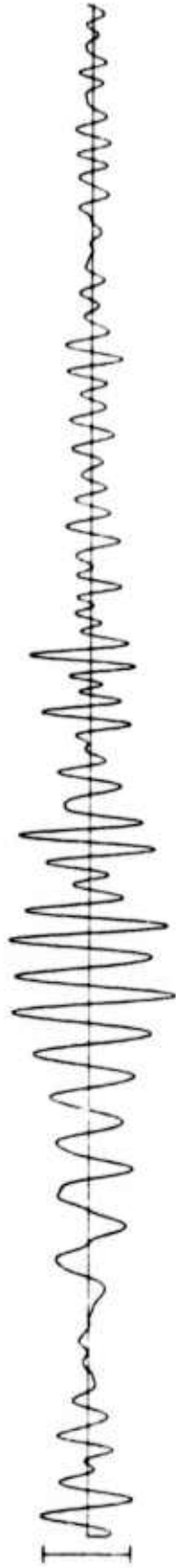
FM-WV 22 AUG 75

23:25:13

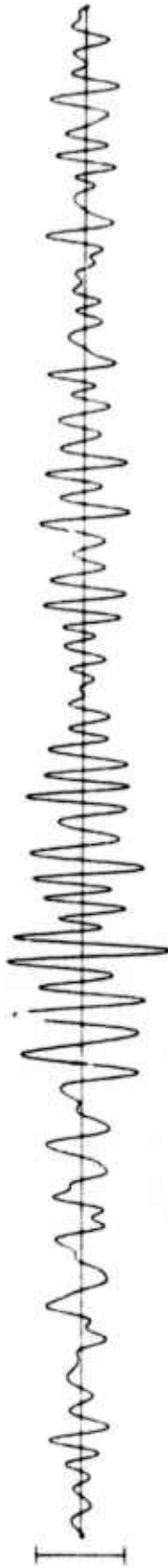
LPZ
4119.36 MHz



LPR
3204.00 MHz



LPT
2136.42 MHz



TIME



23:25:00

HN-ME 22 AUG 75

23:31:48

LPZ
2376.96 MP



LPR
1555.20 MP



LPT
1831.69 MP



TIME

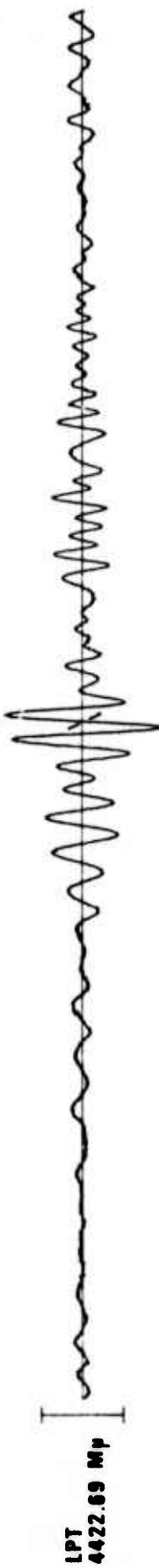
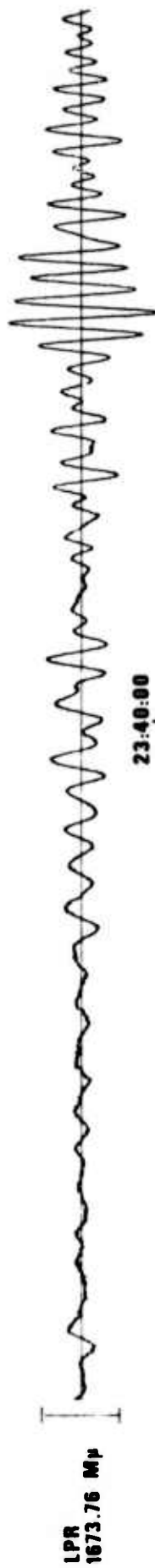


23:35:00

15

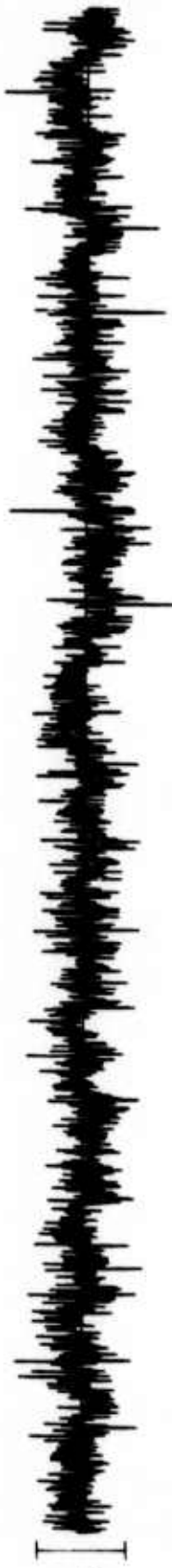
WH2YK 22 AUG 75

23:44:52



RK-ON 22 AUG 75

LPZ
INOPERATIVE



LP3
UNKNOWN



LPT
INOPERATIVE



TIME

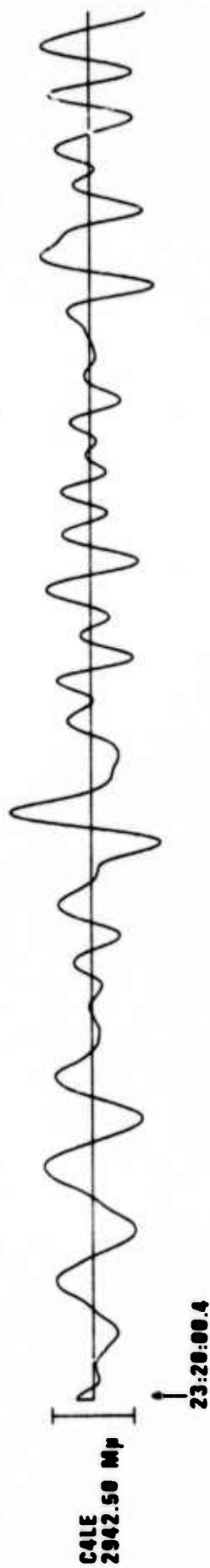
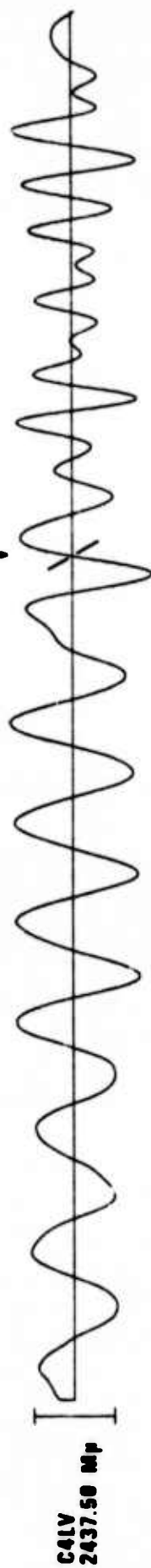


2 MIN

23:30:00

INVALID CALIBRATION

LASA LONG PERIOD C4 SUBARRAY 22 AUG 75



1 MIN

ALPA LONG-PERIOD VERTICAL BEAM 22 AUG 75

LP VERTICAL
1165.95 MHz

23:49:33

23:37:45

1 MIN

18

